

***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE***

Applicant: Naghian, Siamak  
Title: SIGNAL PROPAGATION DELAY ROUTING  
Appl. No.: 10/526,565  
Filing Date: 4/05/2005  
Examiner: Tran, Pablo N  
Art Unit: 2618  
Confirmation Number: 8011

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

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Alexandria, VA 22313-1450

Examiner:

In accordance with the **Pre-Appeal Brief Conference Pilot Program**, announced July 11, 2005, this Pre-Appeal Brief Request for Review is being filed together with a Notice of Appeal and with the required fee. This communication is responsive to the Final Office Action dated October 8, 2008. Accordingly, this Notice of Appeal and Pre-Appeal Brief Request for Review are timely filed.

# **REMARKS/ARGUMENTS**

In section 2 of the Final Office Action, Claims 1-5, 8-11, 13-15, 19-21, 23-25, 27-29, 31-32, and 35-36 were rejected under 35 U.S.C. § 102(e) as being unpatentable in view of United States Patent No. 6,744,740 to Chen (Chen). Applicant disagrees with the Examiner's interpretation of Chen and submits that the rejection is improper.

## **I. Chen fails to teach, suggest, or describe generating first and second time stamps at a first intermediate node**

Claim 1 of the application recites, in part:

generating a first time stamp and a second time stamp at the first intermediate node, wherein the first time stamp corresponds to receipt of the first message at the first intermediate node and the second time stamp corresponds to transmission of the first message from the first intermediate node to the second intermediate node;

Claims 21 and 31 recite similar elements. On pages 2 and 3 of the Final Office Action, the Examiner asserted that Chen discloses these elements of Claims 1, 21, and 31 in “fig. 12A-12D, col. 8/ln. 33-45 [and] col. 9/ln. 44 - col. 11/ln. 2.” Applicant disagrees with the Examiner's interpretation of Chen and respectfully submits that Chen does not teach, suggest, or describe each of the elements of Claims 1, 21, and 31.

Figures 12A-12D of Chen illustrate a plurality of nodes through which a routing path for a message is formed. Figures 12A-12D fail to disclose any type of time stamping. In column 8, lines 33-36, Chen states that “[t]o prevent loops, each time a node gets a Zone Routing Table from a neighboring node, it will store the ‘Source Logical ID,’ ‘Time Stamp,’ and the ‘Hops Left’ in temporary memory.” Column 9, line 44 to column 11, line 2 of Chen discloses how a message is sent from a source node to a destination node by checking a “Zone Routing Table” at each node. Chen further discloses that “[i]f the Path Discovery packet receiving node determines that it is the closest node to the destination node among its neighbors . . . , it will add an entry in its Zone Routing Table for the destination node (its ID, position, and the current time for the time stamp column for now).” (Column 10, lines 37-42). Thus, Chen does disclose generating a time stamp at a node; however, Chen only discloses generating a single time stamp. As seen in Table 3 (an example Zone Routing

Table) in column 10 of Chen, **only a single time stamp is recorded at each node**. Again in Table 2, which represents another example Zone Routing Table, only a single time stamp is recorded at each node. (Column 7, line 57 – Column 8, line 14). Accordingly, Chen fails to disclose **generating a first time stamp and a second time stamp at the first [or any] intermediate node**. On page 7 of the Final Office Action, the Examiner even acknowledged that “Chen does not explicitly disclose first time stamp, second time stamp.” As such, it is respectfully submitted that the rejection under 35 U.S.C. § 102(e) is improper.

In addition, Chen does not disclose that a first time stamp corresponds to “receipt of the first message at the first intermediate node” or that a second time stamp corresponds to “transmission of the first message from the first intermediate node.” No specific description is given in Chen describing exactly when the single time stamp is created or what part of the process the time stamp represents. As such, Applicant respectfully submits that the Examiner has disregarded the claim elements of Claims 1, 21, and 31 which **explicitly recite two distinct time stamps generated at each node**.

**II. Chen fails to teach, suggest, or describe calculating a propagation delay between the first and second intermediate nodes, wherein the propagation delay comprises a difference between the second and third time stamps.**

Claim 1 of the application recites, in part, “calculating a propagation delay between the first intermediate node and the second intermediate node, wherein the propagation delay comprises a difference between the second time stamp and the third time stamp.” Claims 21 and 31 recite similar elements. The Examiner again asserted that these elements are disclosed by Chen in “fig. 12A-12D, col. 8/ln. 33-45 [and] col. 9/ln. 44 - col. 11/ln. 2.”

Applicant disagrees with the Examiner’s interpretation of Chen and respectfully submits that Chen does not teach each of the elements of Claims 1, 21, and 31. In the pending claims, two time stamps are utilized at each node to determine the processing delay that occurs as a message is transmitted from a source node to a destination node. The message is not propagating during this processing delay. Therefore, any ‘propagation delay’ calculation that includes the processing delay at each node is inaccurate. To improve the accuracy of the propagation delay calculation, a receipt time at a node and a transmission time

from the node are **both** generated. The receipt time is used to calculate the propagation delay between the previous node and the current node. The transmission time is used to calculate the propagation delay between the current node and the next node. If both the receipt time and the transmission time are not generated at each node, the propagation delay calculated necessarily includes the processing delay at each node during which the message is not actually propagating. Inclusion of the processing delays at each node in a propagation delay calculation causes errors in any propagation delay calculated because the calculated propagation delay will necessarily be greater than the actual propagation delay if the processing delay is nonzero.

As discussed above, Chen discloses a single “Time Stamp” column in Tables 2 and 3. (Column 7, line 57-column 8, line 14; and column 10, lines 15-24). Chen fails to disclose whether the time stamp is generated at receipt of a message or transmission of a message. Such a delineation is unnecessary in the system described by Chen because Chen does not teach calculation of a propagation delay at all. Chen merely teaches that an optimum path may be selected based on a “shortest time” which includes the processing delay at each node. (See col. 10, lines 47-49).

An anticipation rejection cannot properly be maintained where the reference used in the rejection does not disclose all of the recited claim elements. As a result, Applicant respectfully requests withdrawal of the rejection of Claims 1, 21, and 31. Claims 2-5, 8-11, 13-15, 19-20, 23-25, 27-29, 32, 35, and 36 depend from one of Claims 1, 21, and 31 respectively. Therefore, Applicant respectfully requests withdrawal of the rejection of Claims 1-5, 8-11, 13-15, 19-21, 23-25, 27-29, 31, 32, 35, and 36.

**III. Chen fails to teach, suggest, or describe calculating a processing delay of a first intermediate node, wherein the processing delay comprises a difference between the first and second time stamps.**

In section 4 of the Office Action, Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen. Additionally, on page 5 of the Final Office Action, the Examiner specifically stated that:

As per claim 7, as stated above in claim 1, Chen disclose the method of selecting a path that has the shortest total travel time but not explicitly the message's processing delay at a node. However, it would have obvious to one of ordinary skill in the art to provide such method of calculating the propagation delay (message's travel time from one node to the other node) and processing time to Chen in order to select a path that has the shortest total travel time to/from a source node and destination node.

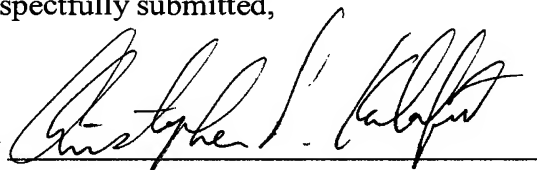
Applicant respectfully disagrees. Chen mentions use of a shortest time without any further disclosure of how that shortest time is calculated or what that shortest time represents. (See col. 10, lines 47-49). Chen does not distinguish between a propagation delay, a processing delay, or a travel time. Calculation of a shortest time to or from a source node and destination node is not the same as a calculation of a propagation delay or a processing delay. Chen, in fact, fails to contemplate either of these components of a shortest time determination because they are unnecessary to, and unnecessarily complicate, calculation of a shortest time between nodes. Therefore, there is no motivation whatsoever for Chen to calculate "a processing delay of the first intermediate node, wherein the processing delay comprises a difference between the first time stamp and the second time stamp, and further wherein the first path is selected based at least in part on the processing delay" as recited in Claim 7.

Therefore, Applicant respectfully submits that Chen fails to teach, suggest, or describe or to render obvious the elements as recited in Claim 7. As a result, Applicant again respectfully requests withdrawal of the rejection of Claim 7. In view of at least the foregoing reasons, it is respectfully submitted that the claims are in condition for allowance.

Respectfully submitted,

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By



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